CLAIMS

1. An image processing apparatus comprising:

a plurality of code converting units for executing coding and decoding of image data;

5   a plurality of request-source task units for requesting any of said plurality of code converting units to perform a code conversion of image data, the number of task units being greater than the number of code converting units and having priorities thereof

10   set in advance; and

an assigning unit for assigning said plurality of code converting units to processing requests from request-source task units having a high priority and, if there is an idle code converting unit among the

15   plurality of code converting units, assigning the code converting unit to a processing request from a request-source task unit having a low priority.

2. The apparatus according to claim 1, wherein said code converting units have one-to-one correspondence

20   to the request-source task units having the high priority; and

said assigning unit assigns the corresponding code processing units in accordance with the processing requests from the request-source task units

25   having the high priority.

3. The apparatus according to claim 1 or 2, wherein code converting units, the number of which is smaller

than the number of the request-source task units
having the low priority, correspond to these request-
source task units having the low priority; and

said assigning unit assigns said code converting
units in a prescribed order to the processing requests
from the request-source task units having the low
priority.

4. The apparatus according to claim 3, wherein said
code converting units are constituted by software-
implemented code converting units for executing code
conversion by software and hardware-implemented code
converting units for executing code conversion by
hardware; and

said assigning unit assigns said software-
implemented code converting units to the processing
requests of the request-source task units.

5. The apparatus according to claim 4, wherein said
request-source task units having the high priority are
classified into a first unit group processed by said
software-implemented code converters and a second unit
group processed by said hardware-implemented code
converting units via said software-implemented code
converters; and

said assigning unit assigns said software-
implemented code converters in accordance with the
priorities and classification of said request-source
task units.

6.   The apparatus according to claim 5, wherein said hardware-implemented code converting units are adapted so as to be used jointly by the request-source task units of said second unit group.

5   7.   An image processing method comprising:

a processing-request issuing step of issuing a processing request to a code converting unit by any request-source task unit of a plurality of request-source task units the number of which is greater than

10   the number of a plurality of code converting units and having priorities thereof set in advance, said code converting units executing coding and decoding of image data;

a priority processing determination step of

15   receiving the processing request and determining whether the processing request issued by the request-source task unit should be processed with priority; and

an assigning step of assigning the code

20   converting units to processing requests from request-source task units determined to have a high priority and, if there is an idle code processing unit among the code converting units, assigning the code processing unit to a processing request from a

25   request-source task unit determined to have a low priority.

8.   The method according to claim 7, wherein said code

converting units have one-to-one correspondence to the
request-source task units having the high priority;
and

5   said assigning step assigns the corresponding
code processing units in accordance with the
processing requests from the request-source task units
having the high priority.

9.   The method according to claim 7 or 8, wherein code
converting units, the number of which is smaller than

10   the number of the request-source task units having the
low priority, correspond to these request-source task
units having the low priority; and

said assigning step assigns said code converting
units in a prescribed order to the processing requests

15   from the request-source task units having the low
priority.

10.   The method according to claim 9, wherein said
code converting units are constituted by software-
implemented code converting units for executing code

20   conversion by software and hardware-implemented code
converting units for executing code conversion by
hardware; and

said assigning step assigns said software-
implemented code converting units to the processing

25   requests of the request-source task units.

11.   The method according to claim 10, wherein said
request-source task units having the high priority are

classified into a first unit group processed by said
software-implemented code converters and a second unit
group processed by said hardware-implemented code
converting units via said software-implemented code
5   converters; and

said assigning step assigns said software-
implemented code converters in accordance with the
priorities and classification of said request-source
task units.

10   12.   The method according to claim 11, wherein said
hardware-implemented code converting units are adapted
so as to be used jointly by the request-source task
units of said second unit group.

13.   An image processing program comprising:

15   program code for executing a processing-request
issuing step of issuing a processing request to a code
converting unit by any request-source task unit of a
plurality of request-source task units the number of
which is greater than the number of a plurality of
20   code converting units and having priorities thereof
set in advance, said code converting units executing
coding and decoding of image data;

program code for executing a priority processing
determination step of receiving the processing request
25   and determining whether the processing request issued
by the request-source task unit should be processed
with priority; and

program code for executing an assigning step of
assigning the code converting units to processing
requests from request-source task units determined to
have a high priority and, if there is an idle code
5 processing unit among the code converting units,
assigning the code processing unit to a processing
request from a request-source task unit determined to
have a low priority.

14. The program according to claim 13, wherein said
10 code converting units have one-to-one correspondence
to the request-source task units having the high
priority; and

the program code for executing said assigning
step includes code for assigning the corresponding
15 code processing units in accordance with the
processing requests from the request-source task units
having the high priority.

15. The program according to claim 7 or 8, wherein
code converting units, the number of which is smaller
20 than the number of the request-source task units
having the low priority, correspond to these request-
source task units having the low priority; and

the program code for executing said assigning
step includes code for assigning said code converting
25 units in a prescribed order to the processing requests
from the request-source task units having the low
priority.

16. The program according to claim 15, wherein said code converting units are constituted by software-implemented code converting units for executing code conversion by software and hardware-implemented code

5 converting units for executing code conversion by hardware; and

the program code for executing said assigning step includes code for assigning said software-implemented code converting units to the processing

10 requests of the request-source task units.

17. The program according to claim 16, wherein said request-source task units having the high priority are classified into a first unit group processed by said software-implemented code converters and a second unit

15 group processed by said hardware-implemented code converting units via said software-implemented code converters; and

the program code for executing said assigning step includes code for assigning said software-

20 implemented code converters in accordance with the priorities and classification of said request-source task units.